ENTOMOLOGICAL ITEMS.

Mr. W. M. Maskell has lately described a curious species of *coccidae* from New Zealand under the name of *Rhizococcus fossor*. The female of this species, which lives on *Santolum cunninghamii*, does not cover herself with a scale, but sinks herself bodily in a circular pit in the substance of the leaf and there lays her eggs.

Entomological society of London.— This society, on the fiftieth year of its existence, 1883, decided to take measures to obtain a royal charter. This charter has now been granted the society under date of 20 July 1885, and ensures the society a legal existence and increased privileges and responsibilities.

Introduction of humble-bees into New Zealand. The attempts to introduce humble-bees (*Bombus*) into New Zealand, in order that they may fertilize the red clover, have been hitherto unsuccessful, but this year a few have been landed alive in that country, having been brought in their dormant winter condition from England, and set free upon awakening.

Election of honorary members. At the session of the Entomological society of France, 11 March 1885, E. de Sélys Longchamps, of Liége, Belgium, S. A. de Marseul, of Paris, and Dr. G. H. Horn, of Philadelphia, Pa., were elected honorary members of that society, and at the session of 8 April 1885, Dr. Auguste Puton, of Remiremont, France, was also chosen an honorary member.

Types of lepidoptera transferred to Cambridge. Dr. Hagen informs us that the collection of lepidoptera heretofore at the Peabody museum, Salem, Mass., is now in his charge at Cambridge. The move is a good, and very necessary one. The collection contains many of Dr. Packard's and some of Mr. Morrison's types, and was slowly going to dust and *Anthrenus* when we last saw it.—*Entom. americana*, June 1885, v. 1, p. 54.

Grote as a composer.— Mr. A: R. Grote, the American lepidopterist, now residing in Bremen, has not only published numerous papers on moths, but several American magazines have printed verses by him. Shortly before leaving America he published a philosophico-religious essay, and he now takes the field as a composer of music, Fischer, of Bremen and New York, publishing his op. 2, which consists of Vier männerquartette, dedicated to Herr C. O. Ruyter.

Chevrolat's collection of coleoptera.— The large collection of coleoptera belonging to the late Auguste Chevrolat is offered for sale, divided into families, by H. Deyrolle et Cie, of Paris. The prices vary from 10 francs for the box of *thorictidae*, of which there are 11 species represented by 30 specimens, up to 9000 francs for the *curculionidae* which are represented by 9000 species and 29000 specimens. The collection of *curculionidae* is said to be the largest excepting that of the museum at Brussels.

Specimens faded by exposure to light. —At a recent meeting (July 2) of the London entomological society, Mr. C. O. Waterhouse exhibited various species of phytophagous beetles to show the extraordinary effect that exposure to light had produced on their colors. Fiery red had turned to bright green, pale yellow to brown, blue to black, and green to purple. The specimens exhibited had been in the public galleries of the Bristol museum for twenty-five years.— *Amer. naturalist*, Jan. 1885, v. 19, p. 80.

Trimerous silphidae.—Mr. D. Sharp describes a new species of the genus *Scotocryptus* (*silphidae*) in the Comptes-rendus de la Société entomologique de Belgique for 7 Feb. 1885. This species, *S. obscurus*, like *S. meliponae*, the one on which Girard founded the genus in 1874, is from Bahia, South America. The species of *Scotocryptus* are blind, but are still more interesting structurally from the fact that they have all the tarsi three-jointed, a character not common among coleoptera and otherwise un-

known among *silphidae*. *S. meliponae* inhabits nests of *Melipona scutellaris;* the habits of *S. obscurus* are unknown.

Food-habits and vesicating power of Cantharis. H. Beauregard, who has lately been completing his studies into the life-history of *Cantharis vesicatoria*, has succeeded in finding its pseudochrysalids in the sand about the cells of species of *Colletes*, upon the honey of which the larvae had subsisted. In the *Comptes rendus* for 8 June 1885, he also states that he has proved by direct experiment the inaccuracy of Neutwich's assertion that the vesicating power of *Cantharis* is only developed after copulation. As previously shown by Beauregard the cantharidin is chiefly located in the generative organs of these beetles, but experiments with the generative organs of specimens just emerged, and that certainly had not copulated, showed the presence in them of strong vesicating power.

Infusorial parasites of white ants. In a paper read before the Royal society of Tasmania, 17 Nov. 1884, Mr. W. Saville Kent described a new species of infusorian belonging to the genus *Trichonympha* of Leidy, and which Mr. Kent names *T. leidyi*. This species differs but little from the species (*T. agilis*) on which Leidy based the genus, and is found swarming in the intestinal canal of a Tasmanian species of *termitidae*, which has not yet been determined. Leidy recommends that, for the observation of these infusoria, the contents of the intestine of the white ant be emptied into a little white of an egg; Kent recommends milk for the same purpose. Kent further says "Of the two remaining infusoria found by me in the Tasmanian white ant the one is apparently referable to Dr. Leidy's genus *Pyrsonympha*, while the other belongs to Stein's multiflagellate genus *Lophomonas*, so far recorded as a parasite only of the orthopterous insects *Blatta* and *Gryllotalpa*."

Insects mistaking leaves for flowers. At the meeting of the Entomological society of London, 1 April 1885, according to the *Entomologist's monthly magazine*, for May 1885, v. 21, p. 278:—"Mr. R. M. Christy (present as a visitor) exhibited a drawing of the larva of the local form of *Platysamia columbia*, known as *nokomis:* he had found the larva in Canada feeding on *Elaeagnus argentea*, the peculiarly silvery appearance of which was strikingly in accord with the color of the larva, which latter was probably protected thereby. He also showed faded leaves of *Betula glandulosa*, and said he had observed *Papilio asterias* settle on similar patches of leaves, apparently mistaking them for flowers on account of the bright coloring. Mr. [J. J.] Weir said he had observed white butterflies settle on patches of variegated leaves in his own garden, and he alluded to the well-known case of bees coming to artificial flowers on a lady's bonnet."

Preservation of Insects.—Apropos of the different notes upon the preservation of insects, that have been addressed to us, Dr. Jacobs states that he has recommended, in the *Bulletin de la Société entomologique de Belgique* (1879), the use of a solution of naphthalin in benzin. The insect is immersed in it, and, after drying, the crystals of naphthalin which are formed on the surface of the body are removed with a small brush. The solution penetrates the interior of the insect, where the presence of the naphthalin can be recognized. This process can be used for coleoptera, but not for the diptera, bees, and other hairy insects, for the brush removes the hairs and spoils the insect.

Mr. Charles Zuber employs liquid ammonia to remove the salts of copper which form upon the pins; this process does not injure the insects. It is of course understood that the insects should not be replaced in their boxes until completely dried.—*Feuille des jeunes natur.*, April 1885, ann. 15, p. 81.

ENTOMOLOGY DURING THE YEAR 1883.— An examination of the index of new genera which were established in the year 1883, as given in the lately completed "Zoologischer jahresbericht für 1883, herausgegeben von der Zoologischen station zu Neapel," under the careful editing of Dr. Paul Mayer and Dr. Wilhelm Giesbrecht (abtheilung 1, 1885; 2, [arthropoda], 3, 4, 1884), Leipzig, W. Engelmann, shows how rapidly our knowledge of insect forms progresses, and consequently also our collections are enriched by new species. According to this index the majority (455) of the 625 new genera among the insects belong to the coleoptera and lepidoptera, to the former 254, to the latter 201; the remaining 170 being divided as follows: the hymenoptera 70, hemiptera 46, neuroptera and amphibiotica 27, diptera 18, orthoptera and thysanura 8 genera.

This certainly astonishingly high number of new genera for a single year must attract all the more attention because all the other divisions of the animal kingdom together can boast only of 446 new genera during the same year.— *Entom. nachrichten*, June 1885, jahrg. 11, p. 191.

WHAT IS INVOLVED IN THE PRODUCTION OF A KILOGRAM OF HONEY.— Alexander Wilson, of Dublin, has lately published interesting details upon the amount of sugar contained in the nectar of different flowers, and upon the harvest which honey-collecting insects make. He calculates that 125 heads of clover blossoms, containing about 60 flowers in each head, or 7,500 blossoms, yield about 1 gram of sugar; the nectar from 7,500,000 flowers is necessary therefore to furnish a kilogram of sugar; but as out of every 100 parts of honey only 75 parts are sugar, a kilogram of honey exhausts in round numbers 5,600,000 flowers; and the bees of a hive must visit this enormous number of flowers to collect a kilogram of honey.— *Deutscher bienenfreund*. Feb. 1885, p. 60.

Since a colony of bees may make 30 or 40 kilograms of honey in a season of 90 days they must at this rate visit more than 2,000,000 flowers a day, but as a colony often contains 40,000 workers and a worker bee often visits 50 flowers in less than half a day, this calculation is not unreasonable. The amount of nectar in flowers varies very much with the flowers, and with conditions of weather and other conditions. *A. F. C.*

The almost unnoticed work of domesticated honey bees produces more than 15 million kilograms of honey yearly, in the United States, which, at the above estimate, implies an amount of labor hardly to be imagined.

NEW TEXT-BOOK OF ENTOMOLOGY.—Swan, Sonnenschein & Co., Paternoster square, London, announce the publication of "An elementary text-book of entomology," with 87 plates by Mr. W. F. Kirby, of the British museum. The publishers, in their circular, which is accompanied by a specimen of the first seven plates, containing 80 well-executed wood-cuts of coleoptera, make the following statement: "The object of the author of this book has been to prepare a portable handbook, freely illustrated, in which a number of the most typical and remarkable insects of all parts of the world should be popularly described and figured. Previous works of this nature have generally treated only of a limited group of insects, or of British insects. Unnecessary technicalities have been carefully avoided, and sufficient space has therefore been gained to give a short and readable, though necessarily somewhat condensed, account of all the more important families of insects. The classificatory and illustrative character of the work has been carefully made its chief aim throughout." The price in cloth, gilt top, is fixed at 15 shillings.

G. D.

LYCAENID LARVAE IN ANTS' NESTS. The *Entomologisk tidskrift* for 1884 (p. 227) records that at the meeting of the Entomological society of Stockholm, held 1 Oct. 1884, Prof. C. Aurivillius "communicated the discovery

which he had made in northern Småland of six chrysalids of *Lycaena argus* L. under the bark of a spruce which was inhabited by *Lasius niger*. The chrysalids were found in the cavities made and frequented by the ants and had envelops of an uncommon tenuity and transparency. As it is difficult to attribute the presence of these chrysalids in the colony of ants to any fortuitous circumstance, it is likely that it has some connection with the secretion of a sugary moisture which has already been observed in some larvae of *Lycaenidae*. Miskin reports that the larva of *Oggyris genoveva*, a large lycaenid from Australia, is entertained and taken care of by ants in the same way as are the aphides in our own country. An identical fact has also been shown in North America. It is also probable that, as a recompense for this sugary liquid, the ants lodge the larvae of *Lycaena argus* L. during their pupal state when they have their principal need for protection."

Aphis nectar and honey. The nectar secretion from aphides is a well-known product. In many cases, however, notably the larch plant-louse, the lice so mimic the twigs on which they rest, that their presence is hard to detect, especially as the lice are often confined to the upper branches of the trees. Often this nectar is secreted so abundantly, that the leaves, and the grass beneath the trees, are covered at early morning by drops so large that it is easy to collect a considerable quantity of the nectar. Sufficient of this nectar can be secured directly from the larch lice and the elm cock's-comb gall lice to test it. Bees are also known to gather it in large quantities. This Aphis nectar is very pleasant and wholesome, and unquestionably forms at times no inconsiderable portion of our most beautiful honey. Such honey is light-colored, pleasing to the taste, and perfectly safe as a winter food for the bees. The truth of this statement is sustained by the fact that the bees work freely on such nectar, even though the flowers are yielding abundant nectar at the same time. The bees themselves practically proclaim the excellence of this Aphis nectar. — *Science*, 23 Jan. 1885, v. 5, p. 82.

Habits of spiders. The following note is extracted from a partial translation [Rec., 3825] of Dahl's "Beiträge zur biologie der spinnen" (Zool. anzeiger, 3 Nov. 1884, jahrg. 7, p. 591-595), as it appears in the *Annals and magazine of natural history* for Jan. 1885.

"It has often been asserted that the geometrical spiders do not repair old webs. This, however, is true only in a limited sense. The outer framework and some of the radii which have become nearly free from transverse threads are probably always used again by *Zilla x-notata* and others. The rest is gathered up, worked into a ball with the mouth and thrown away. If the spider removes a lifeless object from the web, and damages the latter in so doing, it certainly sometimes reproduces the destroyed portion of the framework, the radii, and the central shelter. If we interrupt a spider in the formation of its web, by tearing away a portion of it with the corresponding part of the outer framework, all will be completed up to the part that has remained uninjured. In this case the completion of the framework is especially interesting, as this unaccustomed work is not usually successfully performed at once. Here we see very distinctly how reflection comes into play. I was still better able to ascertain reflection, or, what is the same thing, actual inference, in the case of *Attus arcuatus* Bl., when I offered it flies touched with oil of turpentine. Sometimes the spider despised the species of fly employed (*Homalomyia canicularis*, L.), whilst it attacked other insects (e. g. *Chironomus tendens*, Fab.) just as before. This spider also draws similar conclusions in those cases in which it cannot overcome insects in consequence of their chitinous armor being too hard. These it usually attacks only once, and is then for a long time forewarned. Dangerous insects, however, such as small bees, it avoids, without having seen their sting. Here therefore we have an instinctive dread. Bee-like flies are equally dreaded."

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